

Ms. J. Neale,
Programme Officer,
Christchurch and East Dorset Core Strategy - Local Plan Examination in Public,
Christchurch Borough Council,
The Priory Room,
Civic Offices,
Bridge Street,
Christchurch,
DORSET. BH23 1AZ

17422/A3/GC/dw

BY EMAIL & COURIER: JNeale@christchurchandeastdorset.gov.uk

28th August, 2013

Dear Ms. Neale,

CHRISTCHURCH AND EAST DORSET CORE STRATEGY-LOCAL PLAN EXAMINATION IN PUBLIC (EiP)
SUBMISSION OF HEARING STATEMENTS ON BEHALF OF STOUR VALLEY PROPERTIES LTD (SVP)

On behalf of our client, Stour Valley Properties Ltd (SVP) and in advance of the scheduled hearing sessions for the Christchurch and East Dorset Examination in Public (EiP), I am pleased to enclose Hearing Statements in relation to the following Matters and Issues:

- **Matters and Issues 1: Overall Strategy;**
- **Matters and Issues 5: Strategic Allocations - East Dorset;**
- **Matters and Issues 10: Environmental Issues; and**
- **Matters and Issues 11: Other Matters.**

Further Matters

Further our telephone discussion today and to your email of the 13th August, 2013 providing guidance for participants requesting to raise 'other matters' at the Hearings, we confirm that we seek to rely on our previous representations to the Pre Submission and Pre Submission Proposed Changes consultation stages in respect of the following CS policies:

- **Policy WMC3 - Cuthbury Allotments and St Margaret's Close New Neighbourhoods, Wimborne; and**
- **Policy WMC6 - South of Leigh Road New Neighbourhood and Sports Village, Wimborne.**

While we rely, in the main, on our written submissions in respect of WMC6 we wish to record our desire to speak in relation to this policy at the hearing session for Matter 5, where the Strategic Allocations for East Dorset are to be discussed.

Policy WMC6 - Further Comment

SVP's position is that the proposed allocation of the site south of Leigh Road and Parmiter Drive for a new sports village and housing is unsound on the basis that it does not represent the most appropriate strategy when considered against reasonable alternatives. We submit that policy WMC6 should be deleted, and replaced with a proposal for approximately 250 dwellings on land at Manor Farm to the south of Wimborne, for the following reasons.

Currently the JCS proposes, via policy WMC6, 320-350 homes and a sports village on land to the south of Leigh Road and Parmiter Drive. Policy WMC6 states that the Sports Village will provide, inter alia, a new home for Wimborne Minster Football and Rugby Clubs. The explanatory text states that this area offers the opportunity to provide high quality sporting, recreation and open space facilities along with much needed housing and states that it can also help to maintain the long term integrity of the Green Belt gap between Colehill and Wimborne, by keeping development no further east than the existing housing on Leigh Road and protecting the gap as open space.

SVP's representations thus far have always maintained that policy WMC6 is not the most appropriate strategy for new housing, when considered against a reasonable alternative. Placing new homes adjacent to new facilities for Wimborne Town Football Club and Wimborne Rugby Club is considered inappropriate.

SVP is proposing an alternative to the current option set out within current policy WMC6. The concept plan at **Appendix 1** refers.

As noted above a detailed planning application for the relocation of the rugby club to the Little Burles site has been submitted to East Dorset Council and is currently awaiting determination. This is shown on the plan at Appendix 1. The site is in single ownership and is fully deliverable. Detailed specifications for the development have been agreed in consultation with Wimborne Rugby Club.

SVP's proposals for the development of the Manor Farm site, developed as part of a comprehensive scheme with strong pedestrian and cycle links, including a 55ha new Country Park which would provide a SANG to serve new residential development at Manor Farm proposed by SVP and approximately 250 new dwellings to the north of the A31 at Manor Farm represents a sustainable and logical alternative to Policy WMC6. It must be noted that the area of land to the south of the Manor Farm site now benefits from planning permission (application reference 3/12/0702/COU). Consent was granted in August 2013 for change of use of the site to public space including two new lakes, a picnic area, bird hide, and parking area (20 spaces). The approved layout is and its relationship to the Manor Farm proposals are shown on the concept plan at Appendix 1. The proposed site access is detailed on a plan prepared by i-transport at **Appendix 2**.

It is understood that land covered by Policy WMC6 is in multiple ownership. Furthermore, it is clear from the evidence base produced by the Council, namely the master planning reports, that the site is subject to a number of constraints, including:

- Access;
- Existing sewage treatment works - no residential development is permitted within the 145m buffer of the sewage works;
- 33kv power cable runs diagonally across the site from the north west to the south east - this will need to be incorporated or buried/diverted - it is not known whether or not this will incur an abnormal cost;
- Twin rising mains will require 4m buffer either side; and
- The PROW may require a minor diversion to ensure the land to south of the A31 is accessible - particularly if this is to become a new Country Park/SANG.

In contrast the SVP site is considered by East Dorset Council to be constrained only by 'noise and access issues' - both of which are resolvable. We attach at **Appendix 3** to this letter a copy of an Acoustic Report prepared by the English Cogger Partnership. The report concludes that any potential noise disturbance could be reduced at ground and first floor levels in some zones of the site by a proposed acoustic barrier: through the modification of the bund which already exists along part of the boundary with the A31, which would allow for openable windows to be used for ventilation. Further house specific mitigation measures have also been recommended to allow reasonable internal noise levels within any properties built near the road. The report concludes that with these measures in place, the noise levels from road traffic can be reduced to a level allowing reasonable living conditions at houses built across the site.

The site is said by the Council to comprise an 'awkward linear shape', however as the plan at Appendix 1 illustrates, an appropriate layout is achievable. Concern is raised over the proximity to existing residential properties and on this basis the site is not considered suitable for the location of the football and rugby clubs, however our client is proposing relocation of the rugby club away from any existing residential development but which would be interlinked with the proposed new housing and Country Park to form a coherent and sustainable wider development scheme, capable of making a significant contribution to the Council's overall strategic objectives in relation to housing, recreation and leisure.

It is clear that the Manor Farm site would represent the logical extension of existing residential development on a sustainable and deliverable site in close proximity to Wimborne centre. The site benefits from good accessibility, is in sole ownership and is capable of delivery as soon as planning permission is granted. Development of the site for housing should be considered in conjunction with development of the land between the A31 and River Stour for a Country Park and the development of the site at Canford Bottom for the relocation of the rugby club. All three aspects should be viewed holistically in terms of the overall benefits they could bring to the area.

SD29/9 (New Neighbourhoods Consultation Response May 2013) advises that the Council considers that "whilst access may be achievable it is considered that the number of dwellings may be restricted by the provision of a single vehicular access and the view of the highways agency would be required. A site for residential development in this location is poorly located to the services provided by the town centre of Wimborne than the sites identified in the Core Strategy. Development here would result in a car dependent new neighbourhood." Concerns are also raised with regard to the proposed country park which would function as a SANG: however East Dorset has now approved this proposal and planning permission has been granted.

A technical Note prepared by i-Transport is attached as **Appendix 4** to this letter, and highlights the public transport, cycling and walking routes which would serve the development. We do not agree with the proposition that the site would be car dependent. The site is well situated in relation to services at Colehill and Wimborne.

I trust that all of the enclosed is clear and in order and we look forward to discussing the issues further at the hearing sessions in September.

Should you have any queries please do not hesitate to contact the writer by any of the means detailed at the head of the page.

Yours sincerely,

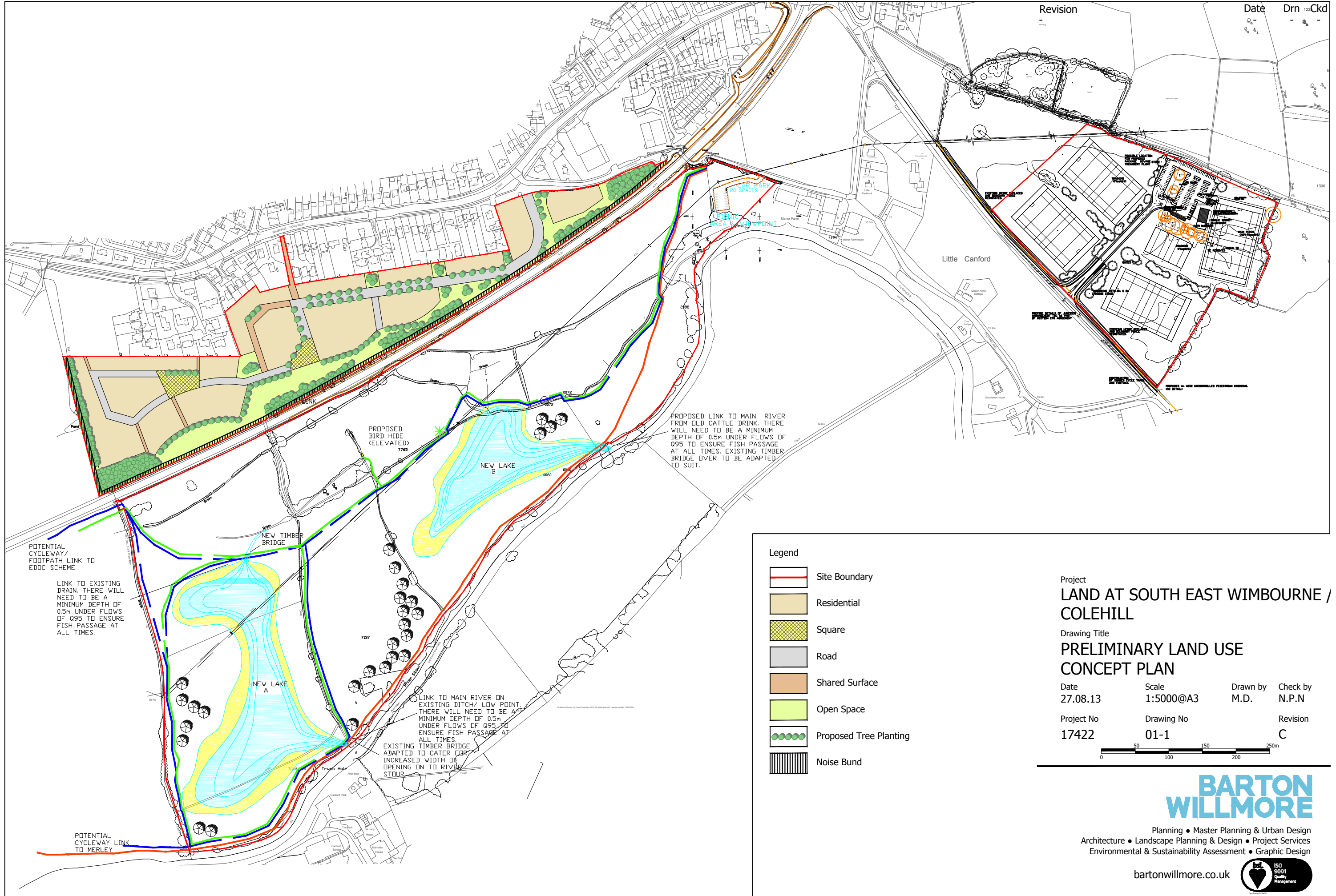

GEMMA CARE

Associate

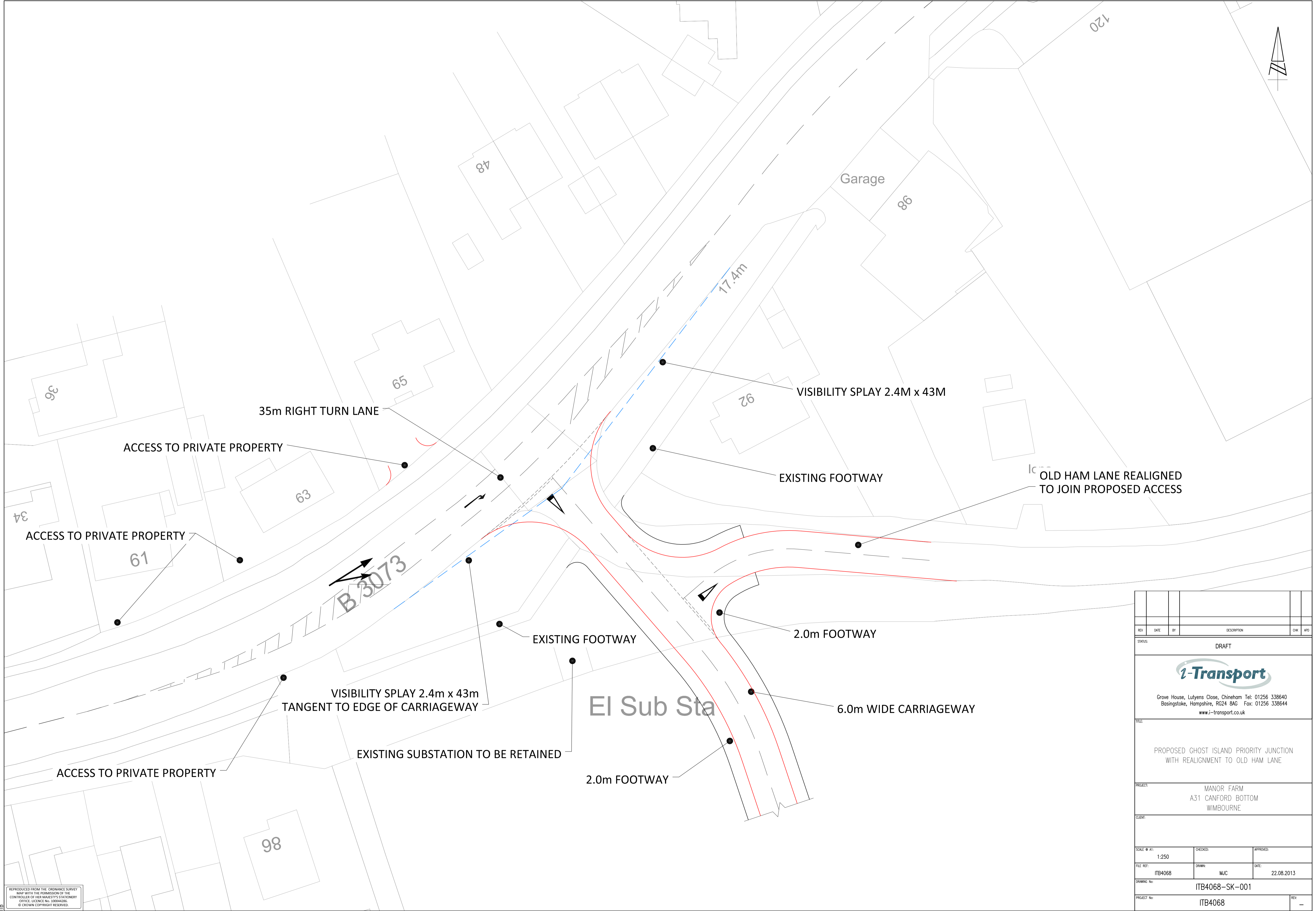
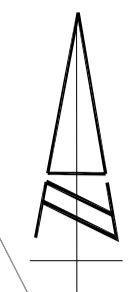
Encs.

cc. R. Gale, Esq. - Stour Valley Properties Ltd

Appendix 1



Appendix 2



REV	DATE	BY	DESCRIPTION	CHK	APP	
STATUS: DRAFT						
<small>Grove House, Lufens Close, Chineham Tel: 01256 338640 Basingstoke, Hampshire, RG24 8AG Fax: 01256 338644 www.i-transport.co.uk</small>						
TITLE: PROPOSED GHOST ISLAND PRIORITY JUNCTION WITH REALIGNMENT TO OLD HAM LANE						
PROJECT: MANOR FARM A31 CANFORD BOTTOM WIMBOURNE						
CLIENT:						
SCALE @ A1:	1:250	CHECKED:	APPROVED:			
FILE REF:	ITB4068	DRAWN:	MJC	DATE:	22.08.2013	
DRAWING No:	ITB4068-SK-001					
PROJECT No:	ITB4068				REV:	-

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE LICENCE No. 10004286. © CROWN COPYRIGHT RESERVED.

Appendix 3

**GALE HOMES AND
INVESTMENT LIMITED**

**Land adjacent to A31,
Little Canford,
Wimborne**

**Environmental Noise
Assessment**

Report No. 13-0019\R01



GALE HOMES AND INVESTMENT LIMITED

Land adjacent to A31, Little Canford, Wimborne

Environmental Noise Assessment

Report No. 13-0019\R01

July 2013

Louise Conroy BEng MIOA

The English Cogger LLP
5 Charlecote Mews
Staple Gardens
Winchester
Hampshire
SO23 8SR

Telephone +44 (0)1962 858800 Fax +44 (0)1962 858809 Web www.tecp.co.uk

Registered in England • Partnership No OC312466 • VAT Registration No 750 4706 43

CONTENTS

1 INTRODUCTION 1

2 SITE CONTEXT 1

3 POLICY AND GUIDANCE ON NOISE 1

 3.1 National Policy on Noise 1

 3.2 Local Policy on Noise 2

 3.3 British Standard 8233..... 2

4 ENVIRONMENTAL NOISE ASSESSMENT 3

 4.1 Ambient Noise Survey 3

 4.2 Measured Noise Levels 4

 4.3 Predicted Noise Levels..... 4

 4.4 Assessment of Noise Levels 5

5 NOISE MITIGATION 5

6 CONCLUSIONS 7

FIGURES

1 INTRODUCTION

Gale Homes and Investment Limited is proposing to develop a stretch of land alongside the A31, at Wimborne in Dorset, for housing.

As the land is adjacent to a busy road, there is a need to establish the noise exposure across the site and recommend mitigation options to assist the planning process. It is understood that the local authority for this area is East Dorset District Council. The planning work would follow the National Planning Policy Framework (NPPF), March 2012 and local guidelines. The English Cogger Partnership has carried out a noise assessment of the site and this report presents the findings of that study.

2 SITE CONTEXT

The site is an area of land located in Wimborne, to the west of the A31, B3073 Canford Bottom Roundabout. The land is sandwiched between an area of established housing with frontages onto the B3073, Wimborne Road, to the north and the A31 trunk road to the south. The eastern boundary of the site is defined by Old Ham Lane. The site is flat with a gentle embankment up to the A31.

It is proposed to develop the site for residential use. A housing layout has not been developed for the site at this stage. The site is shown in Figure 1.

3 POLICY AND GUIDANCE ON NOISE

3.1 National Policy on Noise

Government policy on noise is set out in the National Planning Policy Framework¹ (NPPF) which was published in 2012. This replaced all earlier guidance on noise and placed an emphasis on sustainability. At section 11 *Conserving and enhancing the natural environment* it states at paragraph 109:

The planning system should contribute to and enhance the natural and local environment by: preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability;

It is stated within paragraph 123 that:

Planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*

¹ Department for Communities and Local Government, *National Planning Policy Framework*, London, Larch 2012

This paragraph refers the reader to advice on adverse effects given in the Noise Policy Statement for England² (NPSE). This document sets out the policy vision as:

Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

To achieve this vision the Statement sets the following three aims:

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life.*

3.2 Local Policy on Noise

Wimborne area is covered in the East Dorset District Council Local Plan which was published in 2002, and can be read in full at <http://www.dorsetforyou.com>. Chapter 4 of the Plan states: The aims of the Plan states:

4.11 The quality of the local environment should be protected by seeking through the Local Plan:

j) To ensure living, recreational, civic and work areas are kept from noise, dust, vibration and sources of pollution, and provide safe and secure environments for their users.

Related policies which are relevant to noise in new developments include:

6.280. Policy DES2

Developments will not be permitted which will either impose or suffer unacceptable impacts on or from existing or likely future development or land uses in terms of noise, smell, safety, health, lighting, disturbance, traffic or other pollution.

3.3 British Standard 8233

National and local policies are designed to avoid the creation of new noise sensitive development which may be subject to unacceptable levels of noise, but specific guidance is not given on assessment methods to be used to achieve this objective. It is therefore considered appropriate to have regard for advice given in standards used to inform the guidance in the obsolete PPG 24. In particular, British Standard 8233 provides helpful advice on suitable noise levels within dwellings.

The British Standard BS 8233: 1999, *Sound insulation and noise reduction for buildings – Code of Practice* provides criteria for noise levels in the built environment, those for residential development being based on the recommendations of the World Health Organisation. The criteria for unoccupied spaces within residential properties are tabulated below, for reference:

² Department for Environment, Food and Rural Affairs, *Noise Policy Statement for England*, London, 2010

Criterion	Typical situation	Design range, L_{Aeq} dB	
		Good	Reasonable
Reasonable conditions for sleeping and resting	Living rooms	30	40
	Bedrooms	30	35

For a reasonable standard in bedrooms at night, individual noise events (measured with the F time-weighting) should not normally exceed 45 dB L_{Amax}

The Standard also states that:

In gardens and balconies etc, it is desirable that the steady noise level does not exceed 50 dB $L_{Aeq,T}$ and 55 dB $L_{Aeq,T}$ should be regarded as the upper limit.

Recommendations for mitigation to enable these targets to be achieved are provided in the Standard, including the use of bunds and barriers to reduce external noise and space planning and sound insulation for the control of internal noise levels.

4 ENVIRONMENTAL NOISE ASSESSMENT

The noise on the site is governed by road traffic noise from the A31 trunk road during both the daytime and night-time. The levels of road traffic noise have been established by a combination of noise surveying and computer prediction, and these are described below.

4.1 Ambient Noise Survey

A noise survey was carried out on the site between 15th and 17th July 2013. Two data logging sound level meters were installed with microphone positioned at 1.5m above the ground, located at positions shown on Figure 2 thus representing the front and back of the site. At the end of the survey additional short-term noise measurements were taken at a number of locations at 1.5m above the ground, in order to establish typical attenuation across the site.

During the survey the weather conditions were dry and largely still, with wind of up to 3 m/s. Wind speeds dropped overnight, and changed direction to a westerly wind. The logged noise measurements are shown graphically in Figure 3. The additional spot measurements are shown in Table 1 below, with MP5 similar to the long term measurement position.

Location	Time	Duration	L_{Aeq}	L_{Amax}	L_{A90}
MP1	17:23	5 min	59.2	74.3	55.9
MP2	17:29	5 min	58.5	63.6	56.1
MP3	17:36	5 min	55.6	60.4	53.5
MP4	17:42	5 min	60.3	65.4	56.5
MP5	17:49	5 min	60.1	63.6	58.0

Table 1: Summary of attended measurements

4.1.1 Instrumentation

Continuous monitoring of noise levels was carried out using a Rion sound level meter, type NL-32 (serial number 002406670), fitted with a Rion type UC-53A ½-inch free field microphone (serial number 305924) and a Rion type NH-21 pre-amplifier (serial number 10711). The microphone was fitted with a windshield during the measurements. The sound level meter, microphone and preamplifier were last calibrated in a calibration laboratory on 22-23 November 2012 and calibration and conformance certificates are available.

Prior to and on completion of the survey, the sound level meter and microphone calibration was checked using a Rion type NC-74 Sound Level Meter Calibrator (serial number 00830811). The Calibrator was last calibrated on 22 November 2012, in accordance with the requirements of ISO 10012 and a calibration and conformance certificate is available. No change in the calibration level occurred during the survey.

Continuous monitoring and additional short measurements of noise levels was carried out using a Larson Davis type 824 Precision Sound Level Meter and Real Time Analyser (serial number 824A 1344), fitted with a Larson Davis type 2541 ½-inch free field microphone (serial number 4418) and Larson Davis type PRM 902 preamplifier (serial number 3544). The microphone was fitted with a windshield during the measurements. The sound level meter, microphone and preamplifier were last calibrated in a calibration laboratory on 31 May 2012. Calibration and conformance certificates are available.

4.2 Measured Noise Levels

The long-term noise measurements during the day-time at the front of the site were between 64-71 dB $L_{Aeq, 15 \text{ mins}}$ and 46-61 dB $L_{Aeq, 15 \text{ mins}}$ at the back of the site. During the night time, measurements were between 56-70 dB $L_{Aeq, 15 \text{ mins}}$ at the front of the site and between 46-60 dB $L_{Aeq, 15 \text{ mins}}$ at the back of the site. The reduction in noise between the front of the site and back of the site is approximately 10 dB. At the front of the site, the average continuous noise level over the whole day is predicted to be 68 dB $L_{Aeq, 16hr}$. The average continuous noise level during the night time was measured to be 64 dB $L_{Aeq, 8hr}$. At the back of the site, the average continuous noise level over the whole day is therefore 59 dB $L_{Aeq, 16hr}$ with the average continuous noise level during the night time was measured to be 54 dB $L_{Aeq, 8hr}$.

The maximum levels during the night-time were generally around 75 dB $L_{Amax, fast}$, (with peaks of 96 dB $L_{Amax, fast}$).

4.3 Predicted Noise Levels

The noise measurements have been used to calibrate a noise model for the whole site area using the Wölfel Meßsysteme Software IMMI environmental noise modelling package. This model has been used to generate daytime and night-time road traffic noise contours across the site. The model includes topographical data, areas of existing and proposed housing and buildings, and the road traffic noise sources. Traffic noise for the A31 was extracted from the *Hatris Trad* database for eastbound and westbound traffic. Traffic data for the B3073 road was obtained from Dorset County Council Transportation Modelling

Department for a site on B3073 Leigh road, which is the closest representative traffic model site. This traffic data is presented in Appendix B. Predicted noise levels are at ground floor height for daytime and first floor level at night. Figures 4 and 5 show the daytime and night-time noise contours across the site.

4.4 Assessment of Noise Levels

The British Standard BS 8233 recommends that within bedrooms 30 dB L_{Aeq} is a good standard and 35 dB L_{Aeq} is described as a reasonable standard. The standard indicates that a level difference between the outside free field noise level and the internal bedroom level with open windows would be 10-15 dB. Thus, external levels of 45 dB L_{Aeq} during the night-time would allow the good standard to be met if a sound level difference of 15 dB is achieved through the partially open window. The recommendations given in BS 8233 for external daytime noise in gardens and on balconies are that it is desirable for 50 dB L_{Aeq} to be met and 55 dB L_{Aeq} should be regarded as an upper limit in gardens. Where this upper limit is achieved the internal noise within a dwelling would meet the reasonable standard given in BS 8233 (allowing a level difference of 15 dB through a window partially open for ventilation).

The predicted (and measured) noise levels show a 10 dB reduction of noise levels across the site away from the A31. The model shows that traffic, using the B3073, to the north of site has little influence on the noise climate across the site.

In the daytime, the noise levels across the site indicate that the upper limit of 55 dB L_{Aeq} for external daytime noise is exceeded. Similarly, the predicted external noise levels in the night-time are calculated to significantly exceed the limits set within BS 8233 to allow for reasonable internal noise levels.

These predictions indicate that mitigation measures will be required to ensure that reasonable internal noise levels are achieved.

5 NOISE MITIGATION

There are a number of methods to provide mitigation to the site:

1. Orientation of buildings: when the site layout is established, limiting noise levels across the site could be achieved by providing single aspect dwellings nearest the A31, and using the massing of the houses around the edge of the site to provide screening to gardens and other housing.
 2. Provide screening: using bunds and barriers around the perimeter of the site. The Client has acknowledged and allowed for the need of a barrier against the A31 perimeter. The computer model has been used to optimise the height of the noise barrier - which could be constructed from a combination of earth bunding, using spoil from site enabling works, and acoustic fencing. The optimisation of the barrier is described in Section 5.1 below.
-

3. Where an optimum barrier has been selected, the residual noise levels in bedroom at night-time may still exceed the BS 8233 recommendations. Where this occurs, enhanced sound insulation to the property, in the form of acoustic glazing, and an alternative ventilation system, which allows the windows to be kept closed, would be required.

5.1 Barrier Optimisation

An iterative approach has been undertaken to establish an optimal height for the barrier alongside the A31. The optimal barrier position is as close to the sound source as is practical; however, this would inevitably mean encroaching on land owned by the Highways Agency. When a bund is built, a maximum slope gradient of 1:2 to the height of the bund is likely to be required to ensure that the bund is structurally stable, but as a result, the bund has to be positioned further from the road edge. It would therefore be more space efficient to utilise the existing embankment running alongside the road (which in some places raises the road above surrounding land by 2m), and extend it into the owner's land. This embankment would serve as a bund, and an appropriate height of acoustic fencing could then be placed on top. This arrangement would also allow the fencing to be placed closer to the edge of the road.

Consideration has been given both to the section of road directly in front of the site and also to the section of road running to the west. Noise generated from the westerly section of road starts to become dominant only when the rest of the A31 is sufficiently attenuated, and so an appropriate barrier of a similar height to the one running along the south of the site would also be necessary along the western boundary of the site.

The finalised proposal for the site is to establish a 4.5m high bund/absorptive fence combination along the perimeter of the site for the length of the site. (Appendix B provides a typical specification for the acoustic fence). The fence line will then run south to the north along the west perimeter of the site, starting at a height of 4.5 metres, gradually reducing to a 3 m fence height to the edge of this boundary. (For information the east side of the site is masked from the Canford Bottom Roundabout and the A31 road section running into it by the existing housing and industrial units).

From the optimisation exercise, increasing the height of the barrier further did not offer sufficient additional benefit to noise levels.

Figures 6 and 7 present the resulting contour plots across the site with this level of mitigation in place. Residual noise levels after mitigation are still high, but allow for some of the site to be used without further acoustic mitigation, and offer options for house orientations to achieve internal noise levels) as described below.

With this arrangement and heights of barrier, external noise levels at ground floor level are predicted to be around 55 dB to 59 dB $L_{Aeq, 16hr}$ at a typical nearest house position to the road - shown as the orange zone on Figure 6. Assuming that a sound reduction of 15 dB is achieved through a partially open window, the internal level within the dwelling would meet or just exceed the reasonable standard given in BS 8233. It is recommended that to further reduce the internal noise levels the windows of the properties closest to the road should not directly overlook the road, or the properties are arranged with limited angles of view onto the A31 road. Houses built in the brown zone will have ground floor noise

levels which meet reasonable to good internal noise levels with openable windows and without any further mitigation.

Gardens and balconies in the brown zone meet the BS 8233 *desirable* noise limits for gardens, and similarly the site layout/screening by other houses/garden fences could be utilised to reduce noise levels in gardens in the orange zone.

With reference to Figure 7, which looks at night-time noise levels in bedrooms at first floor level, a practical barrier height of 4.5 m would be sufficient to ensure that internal noise levels would meet the good to reasonable recommended levels at houses built in the yellow zone. Noise levels at properties built in the brown zone, will have noise levels which just exceed the reasonable levels for sleeping. As such, further mitigation measures would be required to achieve reasonable internal noise levels. Again some mitigation could be afforded by site layout and house orientation, but for the houses nearest the road, windows at first floor (and above) would need to be closed to ensure the internal noise levels do not exceed the recommendations within BS 8233. Following on from this, an alternative ventilation system is required to avoid the need to open windows in these rooms.

Upgraded glazing may be required at first floor level for the houses closest to the road along the south western boundary. Glazing with an outer pane of 6 mm, a gap of 12 mm and an inner pane of 8 mm glass, with a typical weighted sound reduction of 33 dB R_w , would be sufficient to mitigate the road traffic noise to give a reasonable internal noise level. The alternative ventilation system will be required to allow adequate ventilation whilst not compromising the sound insulation of the building envelope and will need to be compatible with the requirements of parts F and L of the Building Regulations as well as being designed to ensure that the desired internal noise levels are met.

6 CONCLUSIONS

The proposed development site at a site adjacent to A31, Little Canford, Wimborne is affected by road traffic noise from the A31. The proposed barrier will reduce the noise levels at ground floor and first floor level in some zones of the site to allow for openable windows to be used for ventilation. At first floor level, any properties built near the road will be exposed to noise levels above those recommended in BS 8233, therefore further house specific mitigation measures have been recommended to allow reasonable internal noise levels to be achieved during the night-time. With these measures in place, the noise levels from road traffic can be reduced to a level allowing reasonable living conditions at houses built across the site. Once a housing layout is established, additional modelling can take place to identify the exact housing requiring additional mitigation.

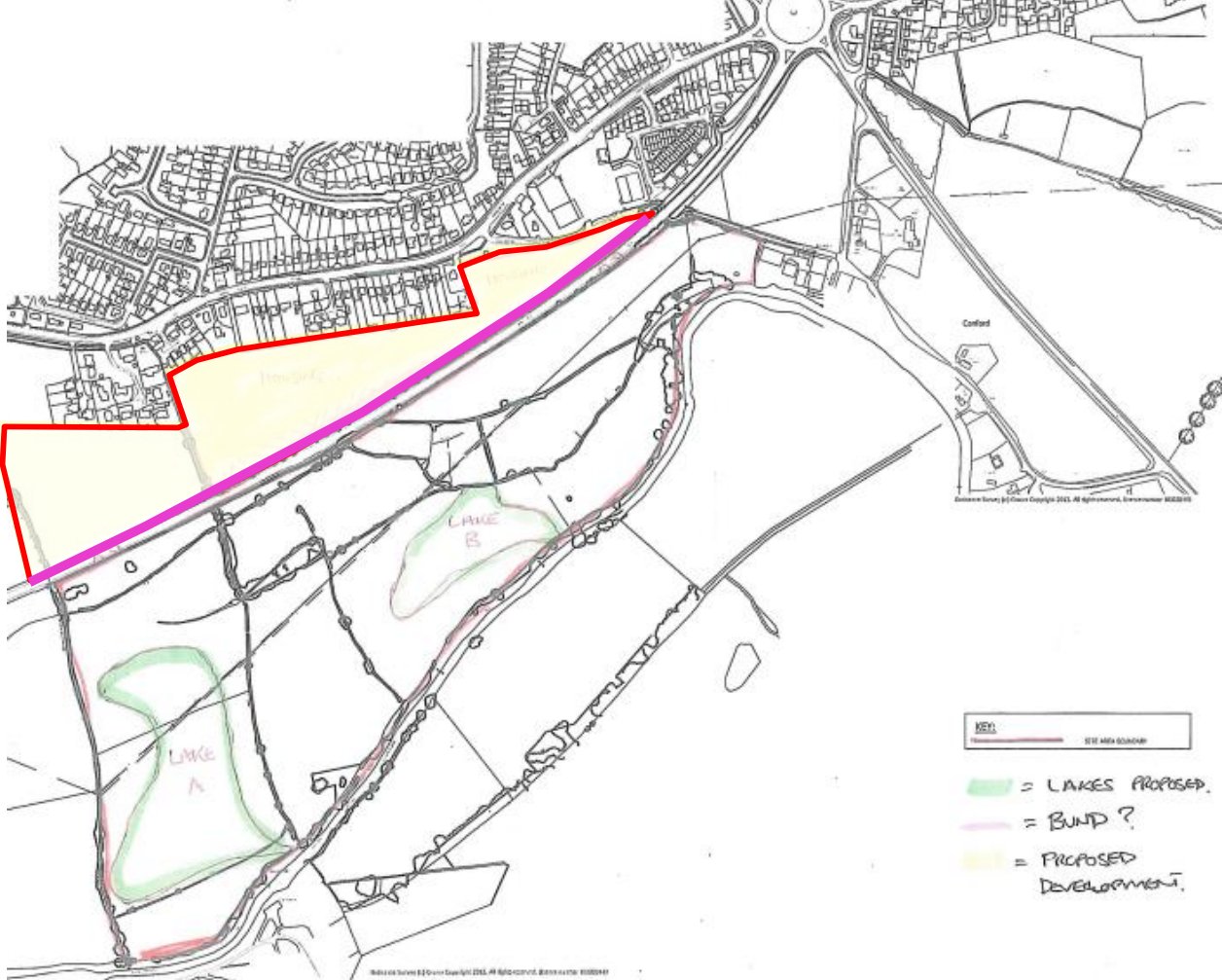


Figure 1: Site location and proposed housing layout



Figure 2: Attended Measurement Positions

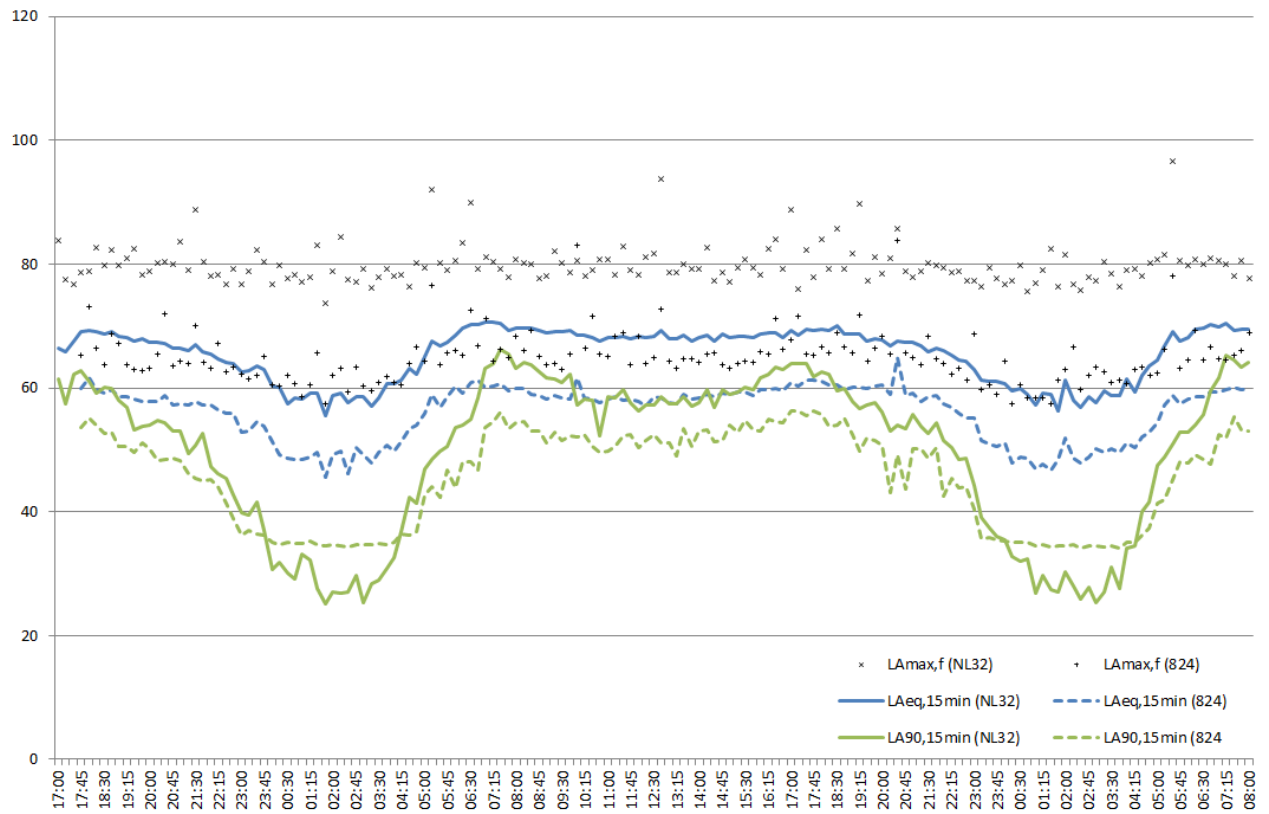


Figure 3: Logged Noise Measurements (10 minute periods)

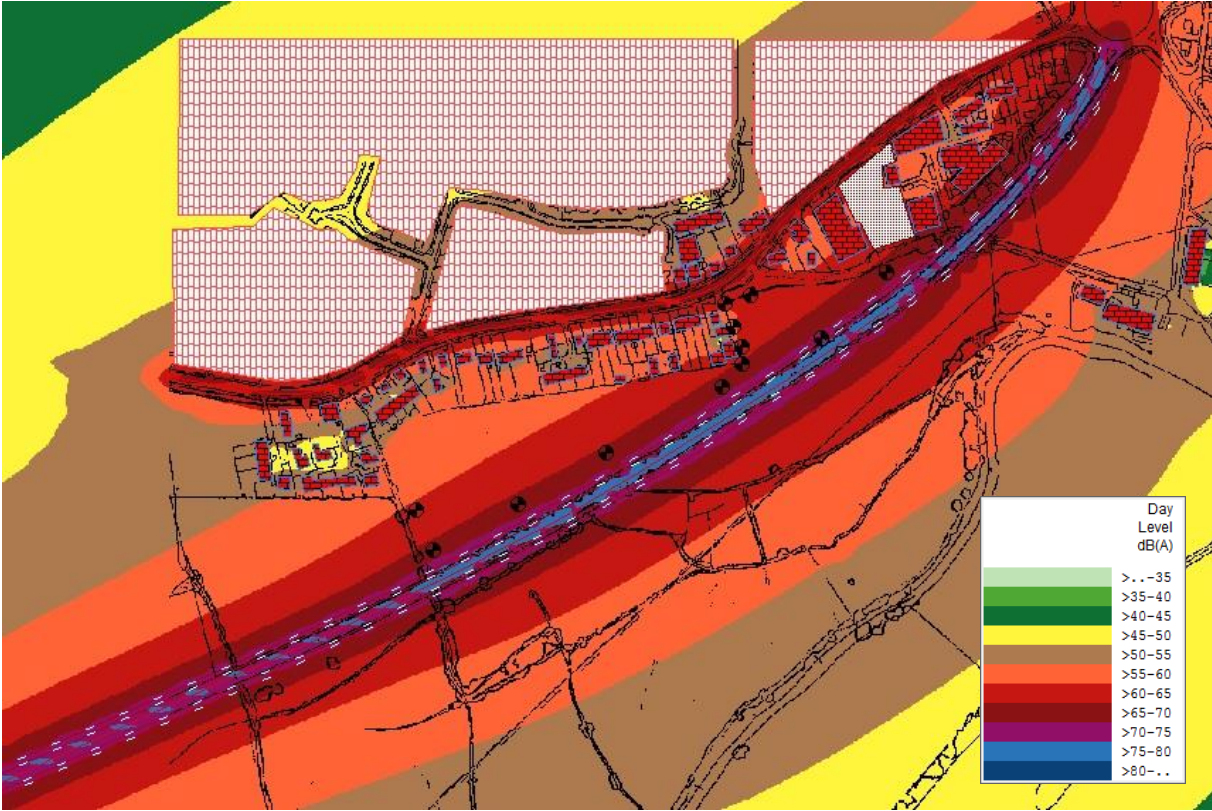


Figure 4: Daytime noise levels at 1.5m (GF level) with no barrier



Figure 5: Night-time noise levels at 4.5m (1F level) with no barrier

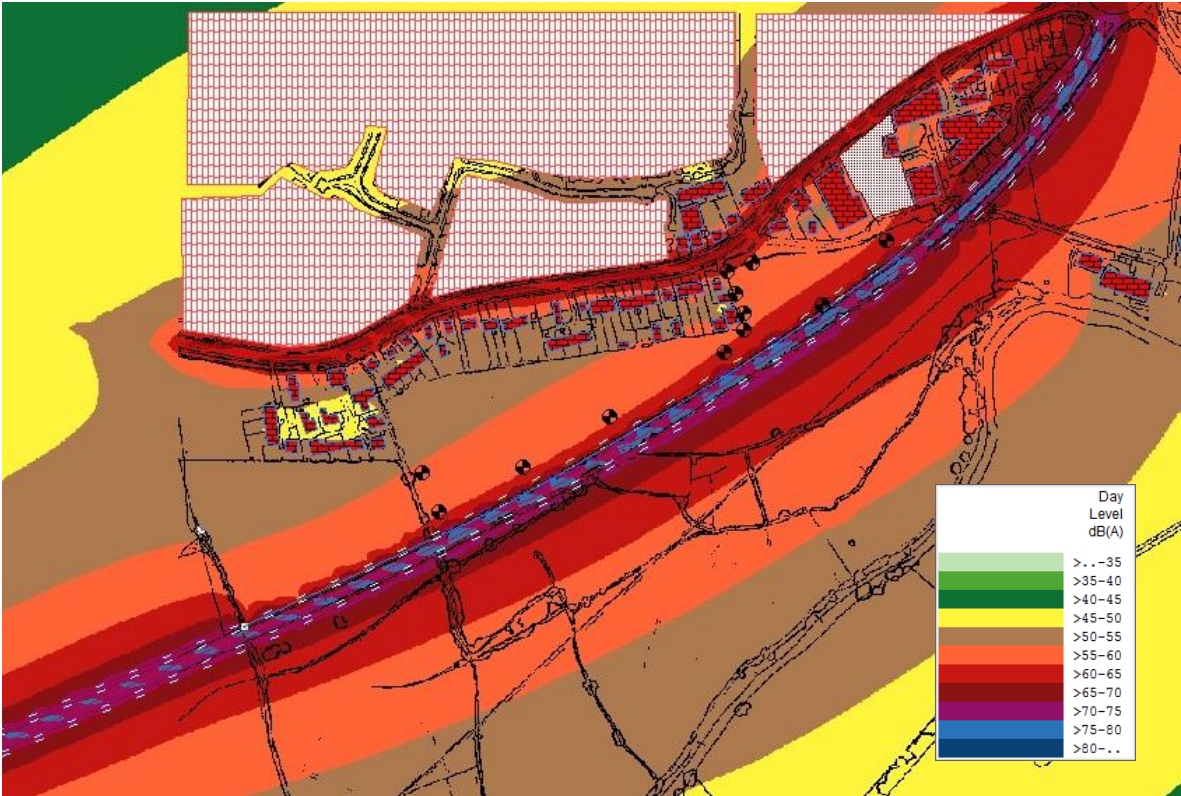


Figure 6: Daytime noise levels at 1.5m (GF level) with an optimised 4.5m barrier/bund combination

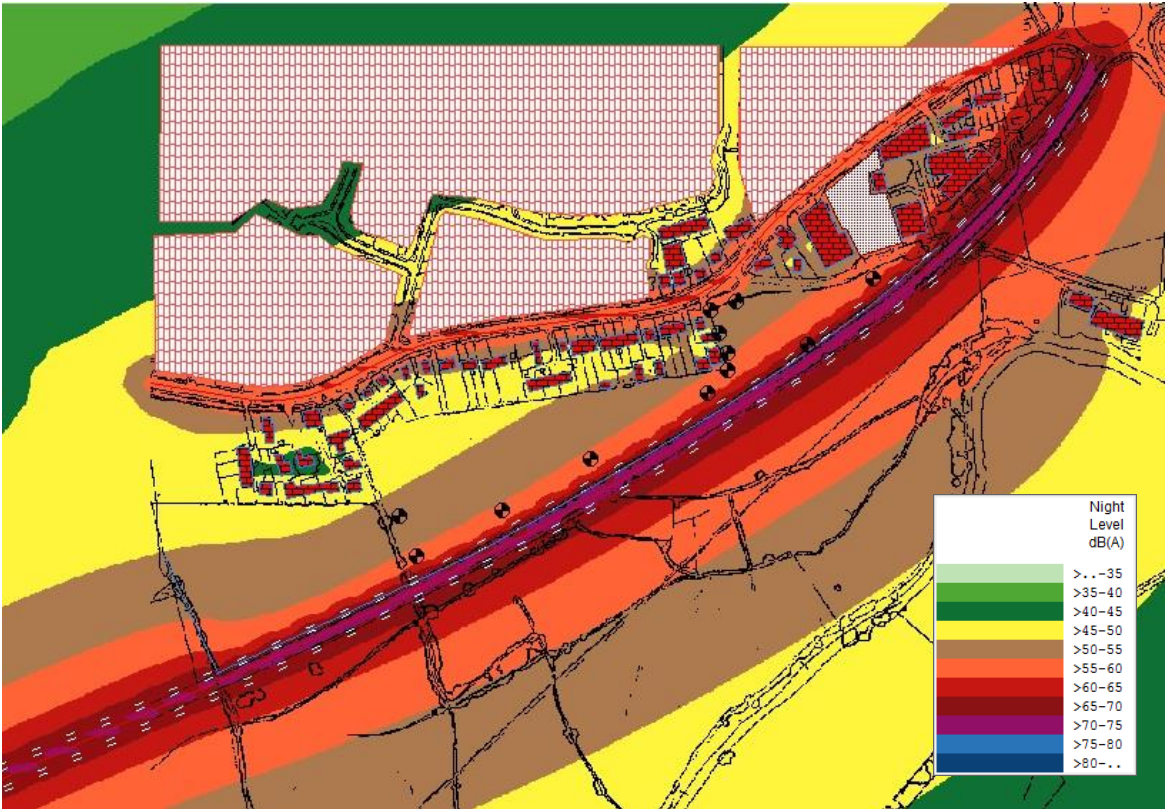


Figure 7: Night-time noise levels at 4.5m (1F level) with an optimised 4.5m barrier/bund combination

APPENDIX A

Traffic Data for B3073

Traffic Data provided for B3073

	AUTOMATIC TRAFFIC COUNT		Dorset Highways Coxley Hall Colliton Park Dorchester, Dorset, DT11 1XJ
	CLIENT	The English Cogger LLP	

PROJECT No. DC 5117 **JOB No.** J174 **SITE No.** 79

LOCATION : B3073 LEIGH ROAD, WIMBORNE

ROAD : B3073 **SPEED** : 40

GRID EASTING : 402681 **NORTHING** : 099976

COUNT TYPE : VOLUME / SPEED / LENGTH

DIRECTION

- 1 : EAST TO CANFORD BOTTOM
- 2 : WEST TO WIMBORNE

START DATE : Monday 18 Mar 2013

END DATE :

NOTES :

PLAN :



SITE: 79 B3073 LEIGH ROAD, WIMBORNE **Road No:**
B3073

Report contains count(s): 21936 Site code: 79 GR: 402653 099967

Approach: App1-Opposite No. 216

Link Reference: 338

Direction: (App1/D1) - E-bound to Canford Botm. Towards Node: 00627

For Week: from 18 Mar 2013 to 24 Mar 2013

For ALL

Vehicles

Time_Per.:	Mon	Tue	Wed	Thu	Fri	Sat	Sun	5dayAv	7dayAv
0000-0030	6	4	8	8	9	26	34	7	14
0030-0100	3	8	6	5	8	15	35	6	11
0100-0130	4	1	4	3	4	13	15	3	6
0130-0200	4	4	3	3	2	13	16	3	6
0200-0230	0	5	2	3	5	11	6	3	5
0230-0300	0	2	1	3	1	13	9	1	4
0300-0330	1	1	3	1	3	7	6	2	3
0330-0400	6	2	1	5	1	5	6	3	4
0400-0430	5	1	5	3	3	2	3	3	3
0430-0500	9	10	10	7	8	1	2	9	7
0500-0530	26	20	21	19	13	13	5	20	17
0530-0600	49	44	41	40	42	17	7	43	34
0600-0630	73	75	69	77	64	17	15	72	56
0630-0700	112	132	113	123	118	43	21	120	95
0700-0730	196	189	186	189	179	67	28	188	148
0730-0800	300	303	310	280	247	67	28	288	219
0800-0830	306	285	294	271	297	89	34	291	225
0830-0900	270	289	242	260	244	147	44	261	214
0900-0930	201	218	227	216	222	157	93	217	191
0930-1000	178	216	197	217	235	225	137	209	201
1000-1030	180	192	206	219	253	244	178	210	210
1030-1100	200	219	183	217	251	237	172	214	211
1100-1130	215	226	215	224	246	268	224	225	231
1130-1200	222	202	215	212	282	307	254	227	242
1200-1230	229	205	260	228	278	293	253	240	249
1230-1300	194	199	199	222	246	273	245	212	225
1300-1330	165	186	215	201	240	241	210	201	208
1330-1400	188	200	224	193	245	230	215	210	214
1400-1430	197	206	229	177	276	269	227	217	226
1430-1500	239	214	222	206	248	185	195	226	216
1500-1530	194	196	258	238	296	186	166	236	219
1530-1600	286	257	295	305	288	212	167	286	259
1600-1630	289	303	292	273	279	188	140	287	252
1630-1700	281	259	267	273	276	182	136	271	239
1700-1730	302	288	295	295	259	159	122	288	246
1730-1800	236	244	248	238	217	117	111	237	202
1800-1830	177	184	231	164	183	121	78	188	163
1830-1900	120	168	173	193	149	113	97	161	145
1900-1930	117	152	137	128	130	91	90	133	121
1930-2000	89	114	88	108	161	85	75	112	103
2000-2030	76	74	105	62	80	51	67	79	74
2030-2100	53	68	92	82	67	54	46	72	66
2100-2130	56	76	69	86	86	46	39	75	65
2130-2200	77	79	88	58	94	64	33	79	70
2200-2230	75	88	83	82	90	96	30	84	78
2230-2300	52	42	59	38	60	48	23	50	46
2300-2330	21	28	26	24	47	37	17	29	29
2330-2400	10	19	17	19	42	38	10	21	22

AM-Peak	606	588	604	551	560	600	507	579	491
Start-time	730	730	730	730	1130	1130	1130	730	1130
PM-Peak	583	562	587	578	584	566	498	573	511
Start-time	1630	1600	1530	1530	1500	1200	1200	1530	1530
0700-1900	5365	5448	5683	5511	5936	4577	3554	5590	5155
0600-2200	6018	6218	6444	6235	6736	5028	3940	6332	5805
0600-2400	6176	6395	6629	6398	6975	5247	4020	6516	5980
0000-2400	6289	6497	6734	6498	7074	5383	4164	6619	6094

APPENDIX B

Specification for a standard barrier

SPECIFICATION FOR ACOUSTIC BARRIER

The noise barrier can be constructed from one or more of a range of materials, including timber, masonry, concrete, cementitious woodwool or wood shaving panels, metals, plastics and recycled materials that meet the requirements for sound insulation, sound absorption, durability and structural integrity.

ACOUSTICAL CRITERIA

Airborne Sound Insulation

The material(s) should be selected to provide a single figure sound insulation DL_R of not less than 24 dB when measured and rated in accordance with BS EN 1793-2:1998, *Road traffic noise reducing devices – Test method for determining the acoustic performance, Part 2. Intrinsic characteristics of airborne sound insulation*. This requirement can usually be met with a timber barrier constructed of at least 19 mm thickness with a dense mineral wool absorptive lining of not less than 50 mm thickness and a density of 100 kg/m^3 , or a proprietary cementitious woodwool or wood shaving panel.

Joints between panels should be well sealed to prevent leakage through the barrier. Timber panels and planks should incorporate due allowance for expansion and shrinkage of the timber by including a rebated overlap or tongue and groove joint between boards, or an external batten to cover movement gaps. The overlap should not be less than 25% of the board width to prevent significant leakage. Where materials are stable and significant movement between panels would not occur, the gaps between panels should be sealed with a resilient gasket.

Acoustic Absorption

The internal (depot) face of the barrier is to be acoustically absorptive over a distance of approximately 85.5 m from the eastern site boundary. Where a timber or other acoustically reflective material is to be used, the internal face is to be lined with an acoustically absorptive material with a protective facing. The lining material, or barrier material, where inherently absorptive, shall be selected to meet a single figure sound absorption value DL_a of not less than 7 dB when measured and rated in accordance with the requirements of BS EN 1793-1:1997, *Road traffic noise reducing devices – Test method for determining the acoustic performance, Part 2. Intrinsic characteristics of airborne sound absorption*.

MECHANICAL CHARACTERISTICS

Mechanical Performance and Stability

The barrier materials shall be selected to provide a service life of not less than 20 years, with no major maintenance required for 10 years.

The barrier shall be capable of resisting wind loadings and the self weight of its component parts without reducing its effectiveness as an acoustic barrier. The mechanical performance shall be capable of meeting the requirements of BS EN 1794-1: 1998, *Road traffic noise reducing devices – Non-acoustic performance, Part 1. Mechanical performance and stability requirements* relating to wind load and static load (Annex A) and self weight (Annex B).

Any absorptive material shall be chemically inert, rot-proof, resistant to the growth of fungi, moulds and bacteria and resistant to, or not offer sustenance to, vermin. The material shall retain its structural integrity over the specified life of the barrier.

APPENDIX C

Definition of Noise Level Parameters

Definition of Noise Level Parameters

Environmental noise is normally described in terms of the single figure A-weighted sound pressure level, in decibels (dB). The A-weighting corresponds to the frequency sensitivity of the ear and, therefore, provides an approximation to the subjective response to sound at different frequencies. When a sound level is expressed in this way, the units can be denoted dB(A).

When sound is time varying, it is convenient to express the sound level using an indicator, or descriptor that takes account of this variation. Two types of indicator are in common use, the equivalent continuous sound level and the statistical indicators.

Equivalent continuous sound level

This indicator provides the overall noise exposure to time varying sound and is the energy average of the sound over a specified time period. It is the notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound over the same period. It is denoted $L_{eq, T}$, or, if A-weighted, $L_{Aeq, T}$, where T is the time period of interest.

Statistical indicators

The statistical indicators are also single figure descriptors, but provide additional information on the temporal variation of the noise level with time. The indicators are expressed as the sound level exceeded for a specified percentage of the time period of interest and the most commonly used are described below:

$L_{A90, T}$: the A-weighted noise level exceeded for 90% of the time period T. This indicator is representative of the noise level occurring in the absence of short-term events and is used in the UK to represent the background noise level.

$L_{A10, T}$: the A-weighted noise level exceeded for 10% of the time period T. This indicator is used in the UK to define traffic noise, although in PPG 24 the $L_{Aeq, T}$ is used. For freely flowing continuous traffic, the $L_{Aeq, T}$ is approximately 3 dB lower than the $L_{A10, T}$.

$L_{A1, T}$: the A-weighted noise level exceeded for 1% of the time period T. This indicator is representative of any short-term peaks that occur in the time period.

$L_{Amax, T}$: the maximum A-weighted noise level that occurred during the time period T. It usually includes an additional subscript, slow (s) or fast (f), ie $L_{Amax, slow, T}$ or $L_{Amax, fast, T}$ which denotes the response time used in the analysis algorithm. The fast response tracks the maximum level of a rapidly changing sound more accurately than the slow response and the value is generally higher for impulsive or transient sounds.

$L_{Amin, T}$: the minimum A-weighted sound level occurring in the time period T, expressed in a similar way to the $L_{Amax, T}$.

Appendix 4

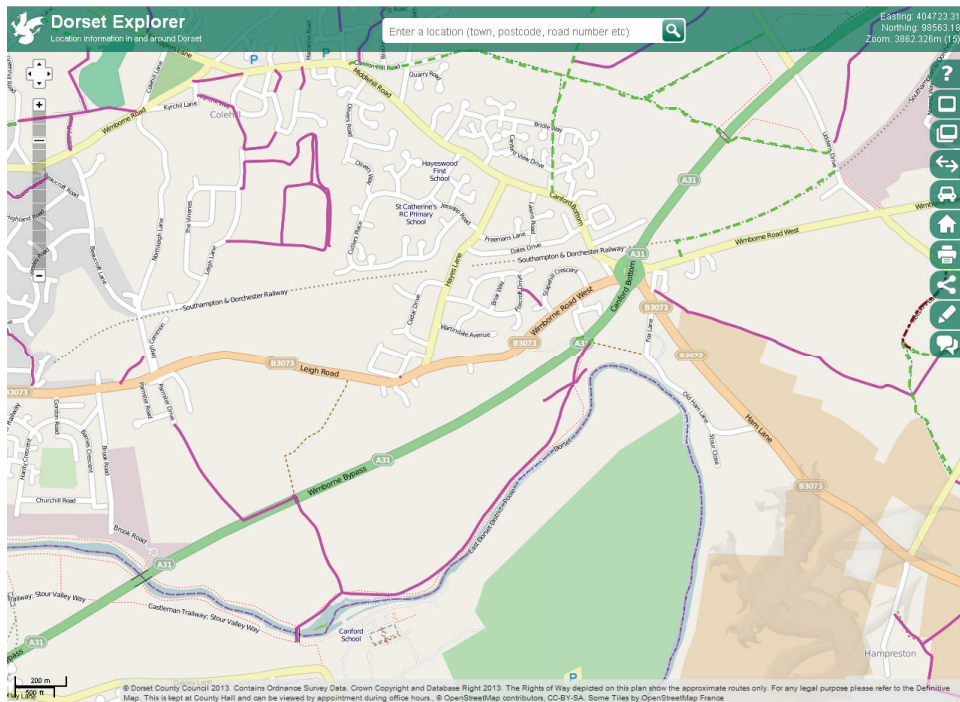
TECHNICAL NOTE

Project No: ITB4068
Project Title: MANOR FARM, A31 CANFORD BOTTOM
Title: EXISTING SUSTAINABLE TRANSPORT CONDITIONS
Ref: PR/pr/ITB4068-00A TN
Date: 22 August 2013

1.1.1 Walking and Cycling

- 1.1.1.1 There are currently footways on both sides of the B3073 Wimborne Road West in the vicinity of the site. Footways on both sides of the B3073 extend as far east as the roundabout with the A31. A footway on the north side of the B3073 extends as far west as Wimborne town centre. The residential roads to the north of the site generally provide footways on both sides of the road, are street-lit and overlooked.
- 1.1.1.2 It should be noted that there are no pedestrian crossing facilities on the B3073 in the vicinity of the site, although there are dropped kerbs across the residential roads taking access on the B3073. The A31 / Wimborne Road West / Ham Lane / Canford Bottom signalised roundabout to the east of the site has a shared cycleways and pelican crossing facilities on the Wimborne Road West, Canford Bottom arms and across the southern section of the A31.
- 1.1.1.3 There is an on off-road cycle routes, which starts at the A31 / Wimborne Road West signalised roundabout. This continues eastbound on Wimborne Road West (east of A31 signalised roundabout) in the form of an on-road cycle route. There is also an off-road cycle route, known as 'The Castleman Trailway', which runs north of Wimborne Road West connecting West Moors and Ringwood to the north east of the site.
- 1.1.1.4 Public Footpath E42/25 runs along the site boundary to the south from east to west. Inset 1 below shows all of the public rights of way and bridleway in the area surrounding the site.

Inset 1 – Plan of the Public Rights of Way in Wimborne



Source: Dorset County Council Website -iMap

1.1.2 Public Transport

1.1.2.1 The nearest bus stops to the site are located on the B3073 Wimborne Road West. These stops are served by the bus routes 89 / 321 & 327. Table 1.1 below lists the routes and frequencies of the bus services in the vicinity of the site as well as the routes from the additional bus stops on Hayes Lane.

Table 1.1 – Local Bus Services and Frequencies

Closest Bus Stop	Route	Destinations	Approx. Daytime Frequency		
			Mon-Fri	Sat	Sun
Wimborne Road West	89	Wimborne – Colehill - Castledown	-	Three return journeys	-
	321	Wimborne - Ringwood	One return Service (Only Friday)	-	-
	327	Ringwood - Wimborne	One return Service (Only Wednesday)		
Hayes Lane	88	Wimborne Circular	One service per hour (Between 0900 - 1600)	One service per hour (Between 0900 - 1600)	-

Source: Traveline

1.1.2.2 There are further bus stops on Canford Bottom Road which are served by route 13 which provides two services per hour from Wimborne to Bournemouth.